23 September 1973

SOVIET STRATEGIC WEAPONS

Today, in view of the crucial importance to our own security of recent developments in Soviet strategic weapons programs, I will present a factual summary of these Soviet programs.

I realize that I will be dealing with some very sensitive material, but considering the importance of the problem, I feel that the entire Senate needs to know the status of the Soviet strategic forces. What I am about to say, therefore, represents the coordinated views of the Intelligence Community on these matters.

I must remind you that the statements I will make and the charts and pictures I intend to show are derived from a wide variety of intelligence sources. Most of these are highly sensitive sources, and must be protected if we are to continue to acquire the information we need to ensure that we have timely and accurate information on what the Soviets are doing. The Intelligence Community could not, for instance, monitor compliance with the Strategic Arms

Limitations Agreements if these sources and methods were compromised. Consequently, what I am about to say is for the information of the Senate, and must be held in strictest confidence.

Overview of Soviet Strategic Forces

I would like to begin with a brief overview of Soviet strategic weapons programs, including the deployment of their operational ICBM force.

The Soviets have been--even before the SALT agreements were signed--developing a new generation

25X1D

of ICBMs. [redacted]

25X1D

[redacted]

The submarine construction program is continuing and there are indications that a new missile and a new or modified submarine are in the early stages of development. Other programs to improve the capability of the ABM and bomber forces are also underway. Although some aspects of these programs are not yet clear, it is apparent that the Soviets are now concentrating on qualitative improvements in their ICBM force.

25X1D

This map shows the [redacted] locations at which the Soviets have deployed ICBMs, with the types of systems indicated. I should add at once, however, that despite the activity at these sites, the number of ICBM launchers in service at [redacted] locations shown on this map has not changed significantly. As you can see from the chart, there are 1,549 launchers in service, of which 288 are for the SS-9, the largest operational Soviet ICBM. The largest single type of silos, however, is the 990 for the smaller SS-11 system. There are still deployed 209 launchers for the older missiles, the SS-7 and SS-8. The total of ICBM launchers is 1,618--the figure usually associated with the Interim Agreement--when we include the [redacted] new type silos still under construction. The addition of eight recently started silos that probably are for launch control raises this figure to 1,626. Also, a few of the new large silos included in the 1,618 may actually be for launch control purposes.

25X1D

25X1D

New Silo Programs

In late 1970 the Soviets began a program to construct three types of new silos, both at the test range and in the field. This program includes two

types of launch silos, one small and one large as shown in these photographs. There is also a large special purpose silo that probably is for launch control. [redacted] 25X1B

25X1B [redacted]

Also in late 1970, the Soviets began converting some SS-9 and SS-11 silos at Tyuratam to the new configuration, and early this year they began a program in the field to convert SS-9 silos. These photographs shows how the facilities looked before, during and after conversion. There also are indications that they will soon begin to convert SS-11 silos.

The new silos, which are intended for new missiles now being tested, are much more survivable than the silos they will replace, having thicker walls and hinged plug type doors. It probably will take one to two years to convert a group of launchers to the new configuration.

Early this year the Soviets began to modernize SS-11 silos for installation of a model of the SS-11

25X1B

25X1B which carries [redacted] Ten SS-11 groups--a total of 100 launchers--have been or are now being modernized.

25X1B This program, [redacted] 25X1B does not appear to improve silo survivability.

New Soviet Weapons Development Programs

I shall now turn to the new Soviet weapons development programs, which are summarized on this chart. The Soviets are incorporating major improvements in the new generation of ICBMs that they are

25X1D now flight-testing. [redacted]

25X1D [redacted]

25X1D

Let us look briefly at each of these new ICBM programs.

The SS-X-16: The SS-X-16 is a three-stage solid-propellant missile which began flight testing in March 1972. This missile has a new guidance system similar to that used in US missiles and has a payload weight of 1,500-2,000 pounds.

25X1B

25X1B

The Soviets may be developing the SS-X-16 both as a follow-on to the SS-13 and as a land-mobile ICBM. At least one launch of the missile has come from a silo. Others may have been fired from a launch pad used in 1968-69 for developmental testing of the Scrooge missile that you see in this photograph. The Soviets claimed this was an ICBM.

The SS-X-17: This is a two-stage liquid propellant ICBM. It has a new guidance system similar to the one on the SS-X-16. Flight testing began in September 1972. In early tests the missile carried a single re-entry vehicle; however, on recent flights MIRV's have been tested. Observers near the impact area have identified as many as [redacted] re-entry vehicles. [redacted] pounds each. The throw weight, which includes the re-entry vehicles and the post-boost vehicle, is about 5,000 pounds.

25X1B

25X1B

The Soviets apparently are using improved propellants in the SS-X-17 that are intended to increase performance over past systems. In addition, they are using a new launch technique whereby the missile is ejected from the silo before the main engines are ignited, as you can see in this drawing. The new technique means the Soviets will no longer have to vent large quantities of rocket engine exhaust from silos. This will enable them to deploy missiles in smaller diameter silos. Thicker walls can be placed in the space previously required for venting the

exhaust; thus the silo will be better able to withstand the effects of nuclear blast.

The SS-X-18: The SS-X-18 is a large, two-stage liquid propellant missile in the SS-9 class. The first flight test occurred in December 1972. The SS-X-18 employs a pop-up launch technique similar to that used with the SS-X-17.

During early tests, the SS-X-18 was flown with a single re-entry vehicle similar to that of the heavy payload SS-9. On recent tests, however, the SS-X-18 has carried a MIRV system delivering at least [redacted] RVs. In view of the large throw weight capability, the Soviets could equip this missile with a significant number of small re-entry vehicles. 25X1B

The SS-X-19: This is a two stage liquid propellant ICBM. It was the last of the four new ICBMs to begin flight testing but was probably the first to be tested with MIRVs. Data gathered from the impact area indicates that the post-boost vehicle dispenses up to [redacted] re-entry vehicles. [redacted] 25X1B

[redacted] 25X1B

The SS-X-19 may be in competition with the SS-X-17 as a replacement for the SS-11. The SS-X-19

uses a conventional launch technique and ignites its main engines in the silo.

Interpretation of the New MIRV Programs

These new MIRV programs, combined with the large throw weight of Soviet ICBMs, give them the potential for some 6,000 indepdendently targetable reentry vehicles by the early 1980s. Soviet warheads would have greater yields than MIRVs on US systems. However, they could choose to deploy MIRVs in the kiloton range, as has the US. For example, if they achieved the current level of US technology as applied to the Minuteman III warheads, they could have some 12,000 MIRVs by 1983. Applying technology comparable to that of the Poseidon warhead, they could have some 23,000 MIRVs on land based systems.

Soviet Naval Programs

The Soviets are continuing to build ballistic missile submarines. They have built 33 of the Y class, which have 16 missile tubes each. This class can fire 1,300 nautical mile missiles with performance characteristics similar to our first generation Polaris missiles. Two thirds of these submarines were built at Severodvinsk in the construction sheds shown in this photograph.

These sheds are now turning out the new D class submarines, which are some 25 feet longer than the Y class. The five D class submarines you see here have been launched within the past 14 months or so. They will carry 12 SS-N-8 missiles with a range of 4,200 nautical miles.

Deployment of this missile will significantly improve the flexibility and survivability of the Soviet ballistic missile submarine force. Much of the US could be targeted from protected seas in or near Soviet home waters, and any area of the US could be hit while the submarines were still some 2,000 miles

from our shores--instead of the closer-in areas from which the Y class submarines have been patrolling for several years. In developing the missile for the D class submarine, the Soviets have moved directly from a weapon comparable to our early Polaris to one with a longer range than the Trident.

The first of the new D class submarines is now operational. Note that this same photograph shows a new construction shed which increases Soviet submarine capability even more.

If you add the throw weights for the Soviet ballistic missile submarines to those of the ICBMs, you get the figures shown on this chart. US Figures are also shown for comparison.

The Soviets have built a large number of other types of nuclear powered submarines, including some for which we have no equivalent. One of these is the E class, which carries cruise missiles with a range of several hundred nautical miles. These weapons could be adapted for use against strategic targets near our coasts, but we have no indications that the Soviets intend to use them in this way.

Another Soviet naval program of particular interest is their new aircraft carrier--the first in the Soviet navy. This new ship is about the same size as our Essex class--about 40,000 tons and about 900 feet long. It does not have catapults, but its flight deck will be able to handle both vertical or short take off and landing aircraft, and helicopters. While the Soviets do not appear to be adopting US attack carrier concepts, the new ship will be suited for a variety of missions, including fleet air defense, amphibious support, command and control, and anti-submarine warfare. The first carrier is expected to become operational in a year or so. A second is under construction near Sevastopol.

ABMs

When we turn to Soviet defensive systems, we see that ABM research and development is being pursued at the Sary Shagan missile test center, in the complex shown in this photograph. Flight testing of a new ABM interceptor began in late 1970.

The inset plate shows the new type of phased array radar used with this system. A modified version of this radar was added late last year, on the hard stand at the right hand side. It was installed on its pad within a six week period.

The significance of this new system is two-fold. First, it can be deployed more rapidly than the existing ABM system at Moscow, which in contrast took five years to build. Second, the radar can engage a number of targets simultaneously.

25X1B

There are also indications of Soviet interest

in testing an interceptor capable of attacking re-entry vehicles within the atmosphere, for something like what has been called hard-site defense.

Finally, it should be noted that the Soviets already have the largest and most expensive air-defense system in the world. There are over a thousand sites equipped with missiles and radars designed to defend against bomber attack. They are continuing to modernize and improve this system.

Strategic Bombers

In considering the Soviets' numerical lead over the US in land based missiles, the US advantage in numbers of strategic bombers is usually cited. However, the Soviets have a new strategic bomber in production, the BACKFIRE, shown in this photo. [redacted] 25X1B

25X1B [redacted] 25X1B

[redacted] the BACKFIRE is capable of air to air refueling. If the Soviets planned to use it for attacks on the US, we would expect to see deployment of a suitable tanker aircraft.

MEMORANDUM FOR: Leg Counsel

This was prepared over the weekend, under Carl Duckett's direction, for Senator Jackson. Carl showed it to Jackson Sunday afternoon. Graphics are "under control."

[redacted]

25X1A

(DATE)

FORM NO. 1 AUG 54 101 REPLACES FORM 10-101 WHICH MAY BE USED. (47)

TOP SECRET

UNCLASSIFIED when blank—TOP SECRET when attached to Top Secret Document—Automatically downgraded to SECRET when filled in form is detached from controlled document.

CONTROL AND COVER SHEET FOR TOP SECRET DOCUMENT

DOCUMENT DESCRIPTION		REGISTRY	
Source	NIO	CIA Control No.	TS
Doc. No.	none	Date Document Received	?
Doc. Date	23 Sep 73	Logged By	
Copy No.			
Number of Pages	14		
Number of Attachments	none		

ATTENTION: This form will be placed on top of and attached to each Top Secret document received by the Central Intelligence Agency or classified Top Secret within the CIA and will remain attached to the document until such time as it is downgraded, destroyed, or transmitted outside of CIA. Access to Top Secret matter is limited to Top Secret Control personnel and those individuals whose official duties relate to the matter. Top Secret Control Officers who receive and/or release the attached Top Secret material will sign this form and indicate period of custody in the left-hand columns provided. Each individual who sees the Top Secret document will sign and indicate the date of handling in the right-hand columns.

REFERRED TO	RECEIVED			RELEASED		SEEN BY		
Office	Signature	Date	Time	Date	Time	Signature	Office/Div.	Date

NOTICE OF DETACHMENT: When this form is detached from Top Secret material it shall be completed in the appropriate spaces below and transmitted to Central Top Secret Control for record.

DOWNGRADED		DESTROYED		DISPATCHED (OUTSIDE CIA)	
TO		BY (Signature)		TO	
By (Signature)		WITNESSED BY (Signature)		BY (Signature)	
OFFICE	DATE	OFFICE	DATE	OFFICE	DATE

FORM 6-64 **26** USE PREVIOUS EDITIONS.

TOP SECRET

GROUP 1
EXCLUDED FROM AUTOMATIC DOWNGRADING AND DECLASSIFICATION

(40)

TOP SECRET

TS unnumbered 23 Sep 73
Soviet Strategic Weapons
14 pages Blind memo fm [redacted]

Filed Senate Government Operations Committee - Permanent Subcommittee on Investigations - 1973

25X1B